

REMARKS

The Applicants are filing this Response to an Official Action dated April 6, 2005. At the time of the Official Action, claims 1-3 were pending. In this Response and Amendment, no claims are canceled or added. Accordingly, claims 1-3 remain currently pending.

In the Office Action, the Examiner rejected claims 1 and 3/1 under U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,828,793 to Mann ("the Mann reference"). This rejection is addressed in detail below. Claim 2 and 3/2 was indicated to be allowable if rewritten in independent form. The acknowledgement of allowable subject matter is gratefully acknowledged.

Claim Rejection under 35 U.S.C. § 102

For the reasons set forth below, the Applicants respectfully traverse the rejection of claims 1 and 3/1 under Section 102.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every limitation of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). The prior art reference also must show the *identical* invention "*in as complete detail as contained in the ... claim*" to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). Accordingly, the Applicants need only point to a single element not found in the cited

reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

Claim Features Omitted from Cited Reference

Turning to the claims, the present independent claim 1 recites, *inter alia*, “obtaining a substantially *linear* representation of the brightness of an image by calculating an estimate of the true image intensity (i_{xy}) as a weighted average of n samples of the apparent image intensity ($v_{n,xy}$) as :

$$\hat{i}_{xy} = \frac{\sum_n \left(w_{n,xy} \left(\frac{v_{n,xy} - C}{KT_n} \right) \right)}{\sum_n w_{n,xy}} = \frac{1}{K} \frac{\sum_n \left(w_{n,xy} \left(\frac{v_{n,xy} - C}{T_n} \right) \right)}{\sum_n w_{n,xy}}$$

where $V_{n,xy}$ is the apparent intensity measured, T_n is the exposure time.”

(Emphasis added.)

In regard to claim 1, the Examiner specifically stated:

Mann also teaches that the composite images formed from a series of input images wherein every pixel of the composite image is drawn from the corresponding pixel in each of the input source images according to a weighted average. The weighting is based on a certainty function associated with each source image pixel corresponding to an output pixel in the final composite image. The value of the relevant pixel parameter for a given final-image pixel (weighted average of n samples) is given by

$$\sum_n c_n P_n / \sum_n c_n$$

where c_n is the certainty function associated with the corresponding pixel of each source image n (col. 6 line 51- col. 7 line 8). It is noted that P_n (pixel parameter) is dependent upon exposure time, brightness or luminance and the gain of the system.

The Examiner's rejection is flawed for a number of reasons. The cited reference does not teach or suggest an image intensity calculated in the manner recited in independent claim 1. One important difference between the Mann reference and the invention recited in claim 1 is that the device disclosed in Mann attempts to form a single picture from a combination of useful information, in terms of detail, from a number of source images (i.e. for "human" consumption). In contrast, the invention recited in claim 1 forms an image having a *linear* relationship with light intensity.

The Mann reference relates to a technique in which a series of images taken with steadily varying exposure times are averaged together using a weighted average approach. In Mann, the weight at each pixel depends on a "certainty" associated with each source image. The fundamental computation in the Mann reference is shown as the weighted average of the "pixel parameters" themselves. The text of Mann indicates that these "pixel parameters" are the (digitized) values from the camera pixels. *See, e.g.*, Mann, Abstract. In fact, claim 1 of Mann states this very clearly. *Id.* at col. 13, lines 56, 57. Moreover, the approach disclosed in the Mann reference results in a near logarithmic response, not a linear response. The Mann reference suggests a method that makes visible the detail in both the very dark and the very light regions of the scene. However, this method is not appropriate for quantitation.

Although the use of the process disclosed in Mann may result in an image with improved apparent dynamic range and detail from all levels relative to a non-weighted average approach, the resulting image will not be linear. Linearity, as recited in independent claim 1, results from effectively turning pixel values into light values by dividing by the exposure time. This technique is not taught, suggested or illustrated by the Mann reference. Thus, Mann cannot anticipate the invention set forth in independent claim 1 or dependent claim 3/1. For at least these reasons, the Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 102.

Conclusion

The Applicants respectfully submit that all pending claims are in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

**Request For One-Month Extension of Time
and General Authorization for Extensions of Time and Payment of Fees**

This Response is being filed on Monday, August 8, 2005. Because the Official Action was mailed on April 6, 2005, a one-month extension of time is respectfully requested. Accordingly, the Commissioner is authorized to charge the requisite fee of \$120.00 for the one-month extension, and any additional fees which may be required, to the credit card listed on the attached PTO-2038. However, if the PTO-2038 is missing, if the amount listed thereon is insufficient, or if the amount is unable to be charged to the credit card for any other reason, the Commissioner is authorized to charge Deposit Account No. 06-1315; Order No. GJEL:0003/FLE.

In accordance with 37 C.F.R. § 1.136, Applicants hereby provide a general authorization to treat this and any future reply requiring an extension of time as incorporating a request thereof.

Respectfully submitted,

Date: August 8, 2005

A handwritten signature in black ink, appearing to read "Barry D. Blount", written over a horizontal line.

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